(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 1 September 2005 (01.09.2005)

PCT

(10) International Publication Number WO 2005/080455 A1

(51) International Patent Classification⁷: C08C 19/02, C08L 9/02

C08F 236/12,

TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:

PCT/CA2005/000252

(22) International Filing Date: 22 February 2005 (22.02.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 2,462,011

23 February 2004 (23.02.2004) CA

(71) Applicant (for all designated States except US): LANXESS INC. [CA/CA]; P.O. Box 3001, 1265 Vidal Street South, Sarnia, Ontario N7T 7M2 (CA).

(72) Inventor; and

- (75) Inventor/Applicant (for US only): GUERIN, Frederic [CA/US]; 3645 Lake Arthur Drive, Port Arthur, TX 77642 (US).
- (74) Agent: ANISSIMOFF & ASSOCIATES; Suite 201, 235 North Centre Road, London, Ontario N5X 4E7 (CA).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,

GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR THE PREPARATION OF LOW MOLECULAR WEIGHT NITRILE RUBBER

(57) Abstract: Nitrile rubber polymers, optionally hydrogenated, having lower molecular weight and narrower molecular weight distribution than those known in the art, are prepared by metathesis of nitrile butadiene rubber, optionally followed by hydrogenation. The process comprises the steps of a) reacting a nitrile rubber in the presence of at least one compound which is a ruthenium or osmium based indenylidene complex and optionally b) hydrogenating the resulting lower molecular weight nitrile rubber using standard techniques known in the art. The optionally hydrogenated nitrile rubber, with lower molecular weight and narrower molecular weight distribution has very good heat resistance, excellent ozone and chemical resistance and excellent oil resistance. It is used in automotive, oil, electrical, mechanical engineering and shipbuilding industries.

Pas 1162